

USAWC STRATEGY RESEARCH PROJECT

**ARMY ACQUISITION PROGRAM MANAGEMENT:
WINNING ON THE PRESENT AND FUTURE BATTLEFIELDS**

by

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This SRP is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

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ABSTRACT

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Since the Goldwater-Nichols Act of 1986, the U.S. Army has engaged in over 140 deployment missions ranging from peacekeeping and counter-insurgency, to full-scale warfare. During this same period, the Army Acquisition Corps (AAC) has also transitioned. However, a majority of these changes were made to implement Congressional laws and regulations, streamline the military acquisition process to incorporate more common "off the shelf" items into the Army, and to provide structure to the AAC personnel accession process. As the Army implements its current transformation campaign plan, restructuring from a heavy combat platform centric force to a force composed primarily of medium weight combat platforms, the Army Acquisition Program Management (AAPM) portion of the AAC must also transition from a reactionary to a proactive organization so that it remains a viable entity in supporting the future Army's full-spectrum conflict capabilities. This Strategy Research Project explores how AAPM provided support to the fielded Army during Operation Enduring Freedom (OEF) in Afghanistan and Operation Iraqi Freedom (OIF) in Kuwait/Iraq. It notes the critical support commercial contractors provided during these operations. It concludes with recommendations for possible changes in how the AAPM may best support the war fighter during future conflicts.

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ARMY ACQUISITION PROGRAM MANAGEMENT: WINNING ON THE PRESENT AND FUTURE BATTLEFIELDS

Since the Goldwater-Nichols Act of 1986, the U.S. Army has engaged in over 140 different deployment missions ranging from peacekeeping and counter-insurgency, to full-scale warfare.¹ During this same period, the Army Acquisition Corps (AAC) has also transitioned. However, a majority of these changes were made to implement Congressional laws and regulations, streamline the military acquisition process to incorporate more common “off the shelf” items into the Army, and to provide structure to the AAC personnel accession process. As the Army implements its current transformation campaign plan, restructuring from a heavy combat platform centric force to a force composed primarily of medium weight combat platforms, the Army Acquisition Program Management (AAPM) portion of the AAC must also transition from a reactionary to a proactive organization so that it remains a viable entity in supporting the future Army’s full-spectrum conflict capabilities. This Strategy Research Project (SRP) explores how AAPM provided support to the fielded Army during Operation Enduring Freedom (OEF) in Afghanistan and Operation Iraqi Freedom (OIF) in Kuwait/Iraq and note the critical support commercial contractors provided during these operations. I will conclude this SRP with recommendations for possible changes in how the AAPM may best support the war fighter during future conflicts.

EVOLUTION OF THE ARMY ACQUISITION CORPS

On 1 October 1986, President Reagan signed the Goldwater-Nichols Reorganization Act into law. One of Congress’s main objectives was to increase the military focus on coupling funding levels to strategic planning. The Services restructured their acquisition processes demonstrating economic credibility and responsibility to Congress, giving evidence as to their ability to balance fiscal requirements against fiscal constraints.² Senior Department of Defense (DoD) acquisition officials provided feedback to Congress in 1989 on the need to establish a professional corps of officers who would single-track in RD&A activities. Congress approved this idea by passing the Defense Acquisition Workforce Improvement Act (DAWIA) in the summer of 1990. DAWIA provided the means for the DoD to develop a professional corps of senior military officers and civilian officials whose established positions were identified as “critical” acquisition positions.³ The law also established a senior-level position within the Army, the Army Acquisition Executive (AAE); to provide oversight, establish doctrine, and management of the entire Army acquisition process.⁴

ARMY ACQUISITION CORPS ORGANIZATIONAL STRUCTURE

The Secretary of the Army (SA) is ultimately responsible for functions necessary for the research, development, logistical support and maintenance, preparedness, operation, and effectiveness of the Army. The SA is also required to provide supervision for all matters relating to Army procurement. The SA executes his acquisition management responsibilities through the AAE.⁵

The AAE is designated by the SA as the senior procurement executive within the Department of the Army (DA) and is responsible for; 1) developing Army acquisition policies and procedures, and 2) managing the Army's production base support and industrial mobilization programs.⁶ The AAE is assisted by a Lieutenant General designated to be his military deputy (MILDEP). The MILDEP is assigned to the Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) [OASA (ALT)] and provides executive-level staff support to the AAE to manage the research, development, testing, and acquisition of materiel for all Army major weapon and support systems. The MILDEP acts as the Army's Director for Acquisition Career Management, which includes managing the AAC and implementing the acquisition career management requirements. Figure 1 below depicts the organizational command and control relationship between the AAE, the MILDEP, other principle DA staff members, and subordinate AAPM commands.

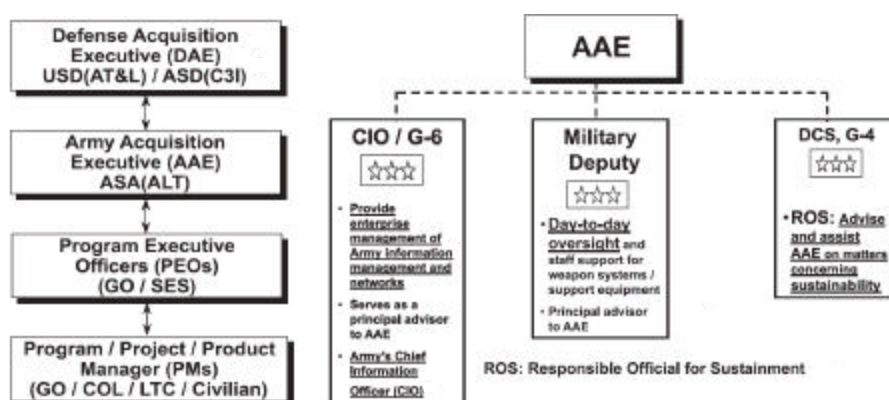


FIGURE 1. THE DEFENSE AND ARMY ACQUISITION EXECUTIVE AUTHORITY CHARTS⁷

The Army implemented the Program Executive Offices (PEO) system in 1987 in response to requirements established by the Goldwater-Nichols Act, and recommendations made by the

Packard Commission. The Program Executive Officer, normally a Major or Brigadier General, administers a defined number of assigned major defense acquisition programs and is responsible for the planning, programming, budgeting, and execution necessary to guide assigned programs through each acquisition milestone.⁸ The Army currently has twelve PEOs:

- Air, Space and Missile Defense (ASMD) – Located at Redstone Arsenal, Alabama, the PEO ASMD's mission is to develop, integrate, acquire, field, and sustain aerospace systems in a joint environment.⁹
- Ammunition - Located in Picatinny Arsenal, New Jersey, the PEO Ammunition's mission is to “execute the Life Cycle Acquisition Management of Ammunition and manage DOD's Ammunition Industrial Base.”¹⁰
- Aviation – Located in Huntsville, Alabama, the PEO Aviation's mission is to be the Army manager for the Apache, Comanche, Cargo Helicopter, Utility Helicopter, Unmanned Aerial Vehicle, and Aviation Systems programs.¹¹
- Combat Support/Combat Service Support Systems (CS/CSS) - Located in Warren, Michigan, the PEO CS/CSS's mission is to capitalize on emerging technologies relative to their product lines and maintain maximum performance of currently fielded systems until disposal of the same.¹²
- Command, Control, Communications Tactical (C3T) – Located at Fort Monmouth, New Jersey, the PEO C3T's mission is to rapidly develop, field, and support leading edge, survivable, secure and interoperable tactical, theater and strategic command and control and communications systems.¹³
- Enterprise Information Systems (EIS) – Located at Fort Belvoir, Virginia, the PEO EIS's mission is to develop, acquire, and deploy tactical and non-tactical information technology systems. It also provides “infostructure” and information management systems enabling the U.S. Army to achieve victory through total information dominance.¹⁴
- Ground Combat Systems (GCS) – Located in Warren, Michigan, the PEO GCS's mission is to manage the development, acquisition, testing, systems integration, product improvement and fielding of ground combat and support systems.¹⁵
- Intelligence, Electronic Warfare (EW) and Sensors (IEW&S) – Located at Fort Monmouth, New Jersey, the PEO IEW&S's mission is to field state-of-the-art, interoperable sensor products which enable the commander to control time, space and the environment, while enhancing survivability and lethality, through continuous technology evolution.¹⁶

- Joint Chemical and Biological Defense (JPEO-CBD) – Located in Falls Church, Virginia, the PEO JCBD's mission is to act as the single point of contact for all chemical, biological, nuclear and radiological detection, and vaccine and medical diagnostic acquisition efforts within the scope of its charter.¹⁷
- Simulation, Training, and Instrumentation (STRI) – Located in Orlando, Florida, the PEO STRI's mission is to “provide life cycle management of interoperable training, testing, and simulation solutions for soldier readiness and the defense community.”¹⁸
- Soldier – Located at Fort Belvoir, Virginia, the PEO Soldier's mission is to “develop, produce, field, and sustain everything that the Soldier wears, carries, and operates.”¹⁹
- Tactical Missiles (TAC MSL) - Located at Redstone Arsenal, Alabama, the PEO TAC MSL's mission is to provide combat effective, and supportable tactical missile systems in a timely and cost-effective manner.²⁰

While it does not fall under the classical Army acquisition framework, there is also a DA program, the Rapid Acquisition Program for Transformation (RAPT), chartered with the responsibility to accelerate fielding of systems, which emerge from particularly successful U.S. Army Training and Doctrine Command (TRADOC) Warfighting Experiments.²¹ Under the RAPT initiative, the Army G-3 established the Rapid Equipment Fielding (REF) team. This team is responsible for rapidly delivering cutting edge products to the soldiers ahead of the normal acquisition process.

It is also worth noting the importance of commercial contractors to the Army. As a result of rapid technological development, the military now relies on cutting edge weapons systems that are complex to maintain and operate. In the past, the Army's philosophy was to retain organic support for new weapons systems to ensure that the Army did not rely too heavily on contractor support. Now under the two-level maintenance concept, it is simply not cost effective for the Army to train soldiers to troubleshoot or repair certain systems, which forces the Army to use contractors during fielding or for life cycle maintenance during both peacetime and contingency operations. The system contractor supports deployed operational forces under prearranged contracts awarded by PEOs, PMs, and the Army Materiel Command (AMC).²²

OPERATIONS ENDURING AND IRAQI FREEDOM MISSIONS

AFGHANISTAN

As a result of the September 11, 2001 terrorist attacks on the United States, President Bush authorized the military to commence OEF on October 7, 2001. The objective of this operation was to overthrow the Taliban regime and eliminate Al Qaeda terrorist cells operating

within the country. Participating units included Special Operation Forces (SOF), the 10th Mountain Division (Light), 82nd Airborne Division (82nd ABN), and 101st Air Assault Division (101st AAD). In response to OEF, the ASA (ALT) staff and Army acquisition system made organizational and operational changes to better support combat requirements of the deployed forces.

ARMY ACQUISITION MISSIONS, COMPOSITIONS, AND ORGANIZATION

Immediately following the attack on the Pentagon on September 11, 2001, the Crisis Action Team (CAT) in the Army Operations Center (AOC) was activated and fully staffed for 24/7 operations. The OASA (ALT) established a Logistics Operation Center (LOC) within the AOC and provided a full time liaison officer (LNO) to man the center. Initially the LOC position was filled with an OASA (ALT) active duty officer on a rotational basis; however, this proved to be less than optimal because it proved to be too much of a personnel drain. Consequently, the active duty officers within the LOC were replaced with individual mobilization augmentees (IMAs). The primary duties of the LNO's were to provide frontline interface with the staffs of the Army G-3, G-4, and G-8, and to handle requests from various agencies or units for items in the development or fielding process.²³

Prior to OEF, the REF team had been exploring the use of advanced robotics on the battlefield, which proved to be beneficial later during OEF operations. A cadre of highly trained civilian contractors and military personnel transported these robotic products to Afghanistan with the mission of training and equipping targeted units. U.S. forces used these robotic devices to clear bunkers, buildings, and caves of Taliban and Al Qaeda forces.

During OEF the PEOs postured themselves to provide maximum support to deployed forces as directed by the MILDEP. Several PEOs established crisis action cells to track the progress of the war and quickly respond to HQDA or MACOM requirements. Although few requirements were received, the following PEOs successfully delivered the following items to soldiers in Afghanistan:

- PEO CS/CSS - In October 2001, the Army deployed four OCONUS-based Force Provider (FP) modules that provided an early-entry capability and served as the first forward base camp facility for U.S. forces operating inside Afghanistan. An FP module is a readily deployable, containerized, and pre-packed base camp developed by the Army. In May 2002, five additional modules were deployed to Afghanistan to support soldiers directly engaged in combat operations there.²⁴

- PEO IEW&S - At the direction of the Vice Chief of Staff of the Army, the Project Manager, Night Vision/Reconnaissance, Surveillance and Target Acquisition (PM, NV/RSTA) was tasked to field the Viper and the Long Range Advanced Scout Surveillance System (LRAS3) to troops deployed in Afghanistan. The LRAS3 consists of a second generation FLIR sensor with long-range optics, eye-safe laser rangefinder, day video camera, and a Global Positioning System with altitude determination. The LRAS3 allows for detection of long-range targets and 10-digit grid coordinates of any target within range. The Viper, a man-portable system providing observation and far target location capabilities for day and night operations, was required because the 3rd Brigade, 101st AAD needed a lightweight targeting system specifically designed for use in the mountainous terrain of Afghanistan. From April 10-27, 2002, the PM, NV/RSTA fielded 24 Viper systems in Afghanistan and trained 60 fire-support soldiers. In March 2002, the U.S. Army Special Operations Command received authorization to acquire LRAS3s for SOF units in Afghanistan. An LRAS3 fielding team deployed to Afghanistan in May 2002 and conducted “train-the-trainer” training for two different units from June 2-12, 2002.²⁵
- PEO Soldier - PEO Soldier received test results that indicated a certain lot of Special Armor Plate Insert (SAPI) plates had failed to meet Army requirements. The CAT tasked the LOC and PEO Soldier to coordinate the location, collection, and return of the potentially defective plates to the U.S. Through the coordinated efforts of several organizations, replacement SAPI plates were shipped to the 101st AAD within days.²⁶
- PEO STRI – Fielded two critical training MOUT systems so soldiers could maintain/refine their small unit operational tactics, techniques, and procedures before they actually engaged in combat operations. “The modules comprising the mobile MOUT are converted sea/land containers, measuring 8-feet wide by 9-feet high by 20-feet long. Movable walls allow the modified containers to be reconfigured to any shape or size required for mission training requirements. Cameras, microphones, motion detectors, smoke and smell generators and instrumentation to provide a variety of targetry are included. A double-module building serves as the After Action Review (AAR) center, with a control room in the rear and a 30-seat theater, featuring 61-inch plasma displays in front to display feedback information during the AAR. Joining two or more containers, either side-by-side, or stacked to create multi-story buildings, creates the training landscape. The latter, complete with re-configurable stairways (open or enclosed), meet a particularly important element of MOUT training—how to

deal with stairwells. The buildings can be covered with brick, stucco, cinderblock or other facades to enhance realism. Plywood interior lining completes the illusion and enables the use of short-range training ammunition for live-fire scenarios. A training configuration may involve only one or two buildings, along with an AAR, or up to 30 or 40 buildings composed of 100 or more containers."²⁷

SOUTHWEST ASIA

In the fall of 2002, the President of the United States directed the DoD to buildup military forces in Kuwait for potential operations against Iraq. During the buildup in Kuwait, several PEO's sent military and civilian personnel to assist combat forces deploying into Southwest Asia (SWA). Specific tasks and missions performed by OASA (ALT) personnel are discussed below.

ARMY ACQUISITION MISSIONS, COMPOSITIONS, AND ORGANIZATION

Within the Pentagon the OASA (ALT) continued to operate as it had since the beginning of OEF. However, in preparation of military operations in SWA and in response to the January 2003 terrorist attack against civilian contractors in Kuwait, the Chief of Staff, Army directed the MILDEP, LTG John Caldwell, to establish an ASA (ALT) Task Force-SWA (ATF-SWA) in Kuwait. Its mission was to institute command and control over the ASA (ALT) sponsored military, civilian, and commercial contractors operating in country. The MILDEP appointed the PM Bradley, COL Curtis McCoy, as the Director of the ATF-SWA under the operational control of the AMC SWA Logistics Support Element (LSE) commander, BG Vincent Boles. BG Boles was also the Deputy C-4 for the Coalition Forces Land Component Command (CFLCC) headquarters. When the ATF-SWA was established, there were approximately 200 ASA (ALT) sponsored personnel in SWA; by May 10, 2003 this number grew to over 500 ASA (ALT) sponsored personnel (Figure 2).

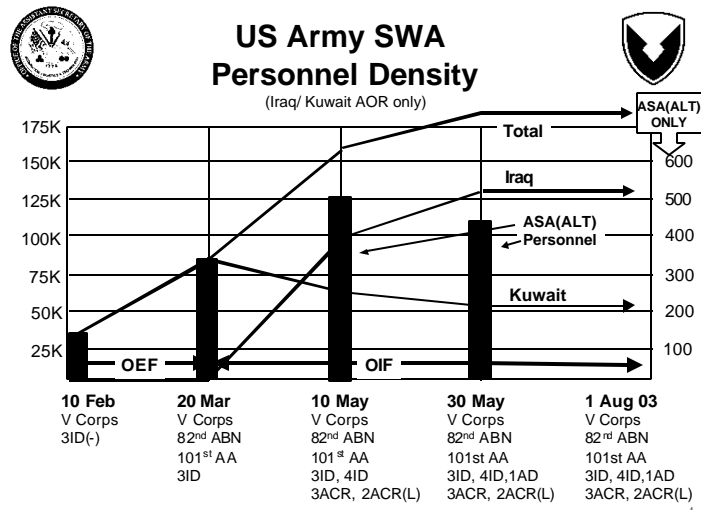


FIGURE 2. US ARMY/ASA (ALT) PERSONNEL COMPARISON CHART²⁸

Prior to the commencement of hostilities, the mission of the ATF-SWA evolved from managing personnel to providing the Commander, CFLCC with the following:

- “Battle Damage Assessment to the Combatant Commanders on the ground.
- Establishment of multiple forward deployed ASA (ALT) teams with embedded acquisition soldiers in the tactical units.
- Embedment of weapon systems engineering expertise into the AMC-LSE.
- Establishment of a reach-back coordination capability directly from AMC-SWA to the PEOs.
- Support of AMC commodity assessments.
- Documentation of lessons learned about deployed systems.”²⁹

In order to provide the CFLCC Commander with the best possible expertise for deployed systems, the ATF-SWA Director requested each PEO and the REF team to provide a subject expert to be on the task force. Each organization provided a Major on a 90-day rotational basis and by March 1, 2003, the task force was fully staffed and operational. The task force was co-located with the CFLCC headquarters in Camp Doha, Kuwait; enabling it to rapidly respond to any tasking that arose.³⁰ Once the President announced that the war was officially over, the representatives were released back to their parent organizations, except for the PEO GCS and

C3T. Both organizations continue to man the task force in Camp Doha, providing dedicated support and information to CFLCC, JTF-7, and the OASA (ALT). Figure 3 below depicts the task force structure and total number of personnel each PEO provided during OIF.

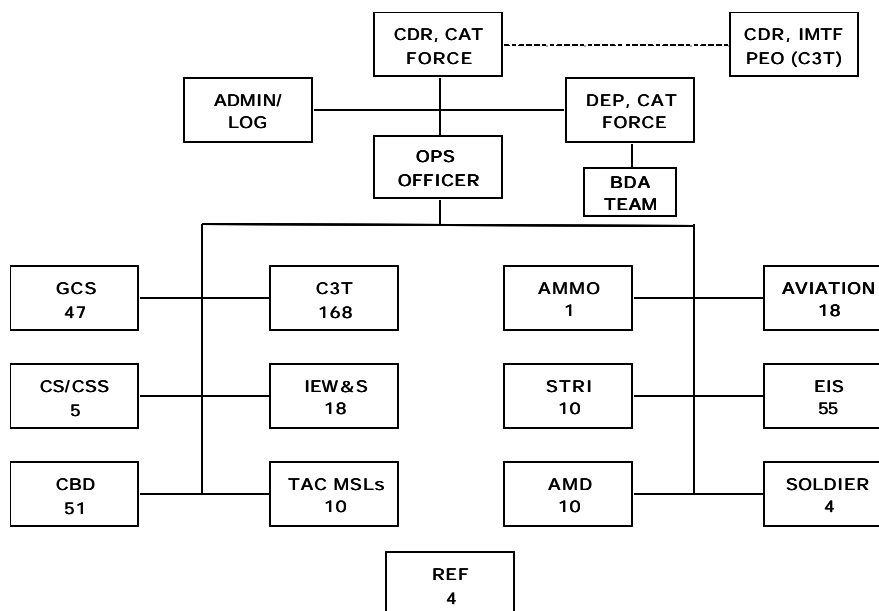


FIGURE 3. THE ASA (ALT) TASK FORCE-SWA COMPOSITION³¹

Due to the vast quantity, complexity and diversity of the systems deployed to SWA as shown in Figure 4 below, numerous PEO sponsored contractors were required to provide on-site technical support throughout the entire campaign. Once hostilities commenced, over one-third of the commercial contractors in SWA deployed to Iraq along side the soldiers and equipment that they were supporting. Contractors were embedded with the units down to the battalion level, and many rode in the same platforms that they supported. Several carried Iridium satellite telephones, allowing them to maintain contact with the ASA (ALT) Liaison Officer (LNO), task force, or their home office in the U.S. Many contractors saw extensive combat action and several were injured.



Combat Weapon Systems Density in SWA

(Does not include UIC's not issued)

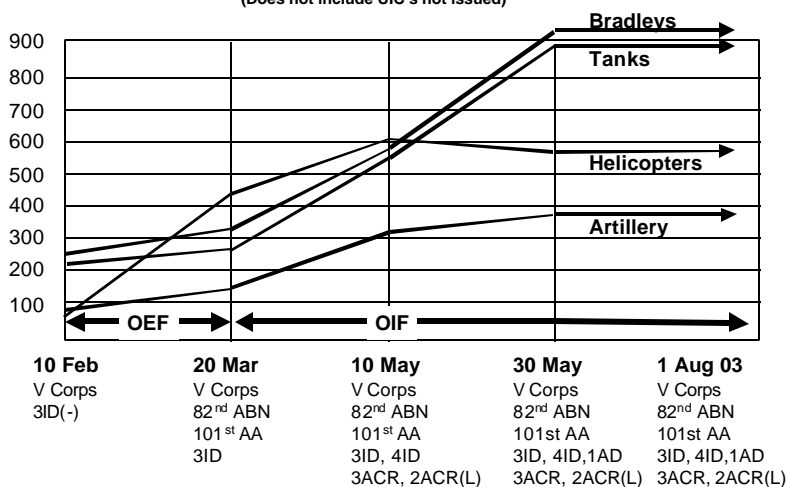


FIGURE 4. COMBAT WEAPON SYSTEM DENSITY IN SWA BEFORE/DURING OIF³²

In February 2003, the MILDEP directed the co-location of an ASA (ALT) LNO and Battle Damage Assessment (BDA) team with each of the major combatant headquarters to facilitate the exchange of information between the war fighter and the acquisition community. As depicted in Figure 5 below, the task force Director placed the ASA (ALT) LNOs and BDA teams under the tactical control of the Logistics Area Officer (LAO) in each of the combat units. The ASA (ALT) LNO was also tasked to keep accountability of ASA (ALT) sponsored personnel assigned to the combat elements crossing into Iraq. The LNOs mission was not to act as a parts chaser for the division, but rather to act as a facilitator in identifying and reporting major issues associated with the operational status of combat systems assigned to that unit. He was also responsible for tracking and reporting the combat status of the unit to which he was assigned. Depending on the size and composition of the combat elements, the LNO was either a Lieutenant Colonel or a Major. The task force also provided a Captain LNO to the British Army. His focus was the Force XXI Battle Command, Brigade and Below Blue Force Tracking (FBCB2 BFT) system that the British used for joint interoperability during OIF.

The LNOs were equipped with a tactical vehicle outfitted with the FBCB2 BFT system and an Iridium satellite telephone, transmitting digital reports to the ATF-SWA as well as providing

direct communications with the PEOs and/or the OASA (ALT). Direct communications provided real-time information of battlefield events, thus allowing the ASA (ALT) and PEOs to operate in a proactive manner. This was a radical deviation from previous campaigns where the PEOs typically received information three to four days old, forcing a reactive rather than a proactive response. The LNO was able to contact the line item manager concerning parts availability, which proved to be critical for the LAO.

At the beginning of the war, it was originally envisioned that each combat division would have a BDA team assigned to it; however, this did not transpire as TRADOC refused to provide Army G-3 tasked personnel to compose the teams. Eventually the PEO, GCS, and the Army's Contaminated Equipment Retrograde Team provided the required personnel to field one team, which performed all BDA missions on both Army and Marine vehicles for CFLCC. Prior to the war, many thought the BDA team would serve more as an historical document team rather than a viable tool for the warfighting Commander. However, as the 3rd Infantry Division (Mechanized) [3ID(M)] engaged in combat action and the BDA team submitted its reports, it was soon evident that the BDA team was a force multiplier. The BDA team rapidly responded to inspect damaged combat vehicles as it occurred, providing real-time data to the combat war fighter and CFLCC commander. The BDA team conducted near real-time interviews with vehicle crewmembers before critical information was forgotten, examined and accurately refuted the use of Koronet missiles by the Iraqi army, explored and documented whether the Iraqi Army was using new tactics to engage our combat forces, and whether a combat vehicle was damaged due to friendly or enemy fires. By the end of major conflict operations, the BDA team inspected over 100 U.S. Army and Marine combat vehicles that were either damaged or destroyed. They reported their findings to the CFLCC, V Corps, Division, and Marine Commanders.

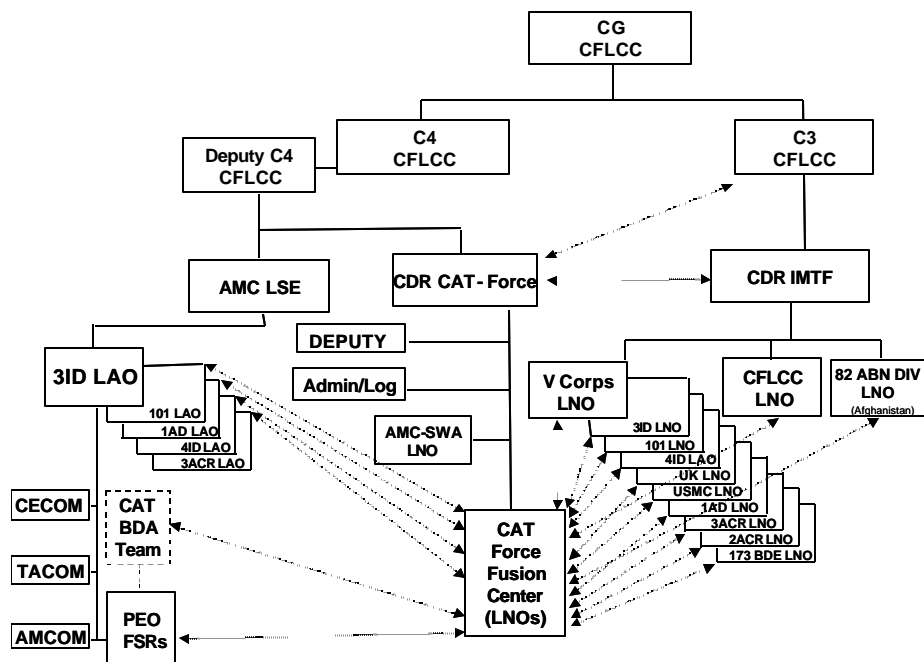


FIGURE 5. THE ASA (ALT) TASK FORCE-SWA BATTLEFIELD LIAISON CHART³³

During OIF the PEOs continued to provide maximum support to deployed forces and quickly responded to any CFLCC, DA or MACOM requirements. PEO's C3T, GCS, and Aviation established operational support cells in SWA prior to the establishment of the ATF-SWA to handle CFLCC taskings. Once the task force was established, the operations of two PEOs were dovetailed into the overall task force mission. PEO C3T still maintained a separate operational cell, due to the CFLCC's heavy reliance on digital and satellite communications, and the FBCB2 BFT of combatant forces, which the PEO C3T was responsible for fielding and maintaining.³⁴ Numerous new and upgraded systems were delivered by the PEO's during OIF. Some of these systems are listed below:

- PEO Ammunition - Fielded New Munitions & Technology, Interim Vehicle Mounted Mine Detection System, Handheld mine detection equipment, M908 120mm Obstacle Reduction Tank Round used to destroy Iraqi bunkers, M930 Mortar Round for mounted operations in urban terrain (MOUT) applications, and the new PAC3 missile for the Patriot system credited with destroying 100 percent of all Iraqi tactical ballistic missiles fired at Coalition forces during the war.³⁵

- PEO Aviation - PM Apache fielded the new Apache Transport Kit permitting assembly and ready-to-fly conditions in hours upon delivery. This system helped deliver six replacements to combat forces in Iraq.³⁶
- PEO C3T – “The single most successful C2 system fielded for OIF was the FBCB2 BFT system.”³⁷ Due to limited quantities, only approximately 1000 systems were fielded to CFLCC, V Corps, 3ID(M), 82nd ABN, 101st AAD, and other select units. The PEO also fielded 29 PRC-150 radios to the 3ID(M) during February/March 2003 to fulfill the requirement for a Division High Frequency Command Net as a long-range backup to tactical satellite (TACSAT) radios.³⁸ It was responsible for fielding newer collection and processing systems to the 3ID(M) just prior to hostilities, such as the PPS-5D, the All Source Analysis System – Light, and additional Common Ground Stations.
- PEO CS/CSS – The PEO was tasked by the Army G-3 to replace the thin skinned M997/8 variant HMMWV's in Iraq with the M114 Up Armored HMMWV, providing added protection to the soldiers performing reconnaissance and counter-insurgency missions.³⁹
- PEO GCS – The PM Bradley was directed by the Army G-3 to resurrect and field the M4 Command and Control Vehicles and Bradley Command Vehicles to V Corps headquarters and all supporting division headquarters before hostilities commenced.⁴⁰ Each command vehicle was outfitted with a tailored communications package, which provided the user with a robust data and phone connectivity via TACSAT and the Mobile Subscriber Equipment.⁴¹ PM Bradley also made the decision to provide the 4th Infantry Division (4ID) digital Bradley fleet with 100 percent plus up to their peacetime authorized supply list (ASL). This ensured the availability of critical components needed by the Forward Support Battalions and theater repair facilities to get the systems back on time, which proved to be invaluable to the operational readiness of the 4IDs Bradley fleet.⁴² Since December 2003, PM Stryker has established contractor maintenance support teams along all echelon levels of maintenance and a forward repair activity site in Balad to rapidly support the deployed Stryker Brigade.
- PEO IEW&S – Conducted the rapid fielding in Kuwait to the 3ID(M) and 101st AAD prior to hostilities of the LRAS3, newly developed combat identification panels for all forces deploying into Iraq, and 19 new intelligence platforms called PROPHET.⁴³
- PEO Soldier - Conducted the rapid fielding of Interceptor Body Armor, the Advanced Combat Helmet, the XM107 Sniper Rifle, and the Chemical Biological Protective

Shelter System in Kuwait prior to hostilities. There are numerous documented cases where each of these systems saved soldiers lives during the war.⁴⁴

- PEO STRI – Fielded two mobile MOUT facilities at the Udari range complex in Kuwait thus allowing soldiers to train in a realistic MOUT environment prior to hostilities commencing.⁴⁵
- PEO TAC MSL – Fielded an upgraded variant of M270 Multiple Launch Rocket System, the M270A1, to the 2-4 Field Artillery Battalion in Kuwait prior to hostilities.⁴⁶

CONCLUSION AND RECOMMENDATIONS

“The difficulty lies, not in the new ideas, but in escaping from the old ones....”

— John Maynard Keynes

As the Army pursues its transformation plan, so too, must the AAPM itself transform to support the future warfighter. We must look to past actions to assist in making this transformation. Based on the lessons learned during OEF and OIF, I am recommending the following for incorporation into the transformation plan of the AAPM portion of the AAC.

RECOMMENDED CHANGES IN POLICIES, REGULATIONS, AND DOCTRINE

While conducting research for this SRP, I searched numerous websites, read various articles and papers, and ask several AAC professionals “Who is responsible for developing AAC doctrine?” The only answer I found was an article dated April 1997 stating that an Acquisition Field Office (AFO) was established at Fort Lee, Virginia to serve as the direct link between the materiel and combat developer. It also stated that the AFO is responsible for developing acquisition concepts and doctrine for the AAC, and integrating these changes into published doctrine.⁴⁷ During a conversation with the Director, Acquisition Support Center (ASC), she stated that the article was incorrect and that it was ASC’s mission to develop and promulgate AAC doctrine.⁴⁸ I therefore recommend two major actions in this area. First, that ASC publish the fact they are responsible for AAC doctrine development. Second, that ASC assume the mission of developing a wartime deployment doctrine for the AAPM portion of the AAC that is analogous to what the Army Acquisition Contracting has. This doctrine needs to address the potential missions of an ATF, identify deployment criteria for an ATF and identify the personnel composition of the ATF, who will provide the resources necessary for standing up an ATF, the principle leadership and reporting chain of the ATF, and how the ATF will interoperate with the AMC LSE Commander. ASC can utilize the ATF-SWA as a template for developing this

wartime deployment doctrine and then tailor the force structure composition according to the warfighter's needs and types of systems being supported.

I also recommend that ASC designate a Major as the person responsible for acting as the conduit between the ASA (ALT) and Joint Task Force (JTF) staff in coordinating this doctrine for implementation, and having the ATF cell table of distribution and allowance (TDA) incorporated into the JTF headquarters TDA. ASC should also take the lead in addressing issues concerning the use of contractor personnel on the battlefield.

ORGANIZATIONAL MODIFICATIONS AND RESTRUCTURING

At the onset of any campaign, or as directed by the MILDEP, a coordination cell needs to be stood-up similar to the one the ASA (ALT) established within the AOC right after the terrorist attacks of September 11, 2001. Dependent on the missions and the size of the operations, this cell may also need to expand so it can act as a command, control, and coordination cell between the ASA (ALT) staff and the PEO's. The coordination cell should act as the center hub for all DoD or Army staff taskings to the acquisition community, respond to any concerns raised by the PEO's, and act as the focal entry point for all acquisition concerns raised by deployed forces. I also recommend that reserve AAC officers be called to active-duty and staff this coordination cell.

PERSONNEL

The senior director of an ATF cell needs to be a principal ASA (ALT) staff member with his principle deputy(s) coming from the PEO's representing the deployed systems. The core missions of this ATF cell must be established early on. Once the missions are decided, TDA modifications can be made to ensure the availability of sufficiently trained personnel to perform these missions.

FUNDING

A majority of all costs surrounding the execution of the ATF-SWA was appropriated from FY02/03 funding from the different PMOs participating in OIF. This was a short-term fix that potentially may have a detrimental impact on the future production, delivery, and sustainment of systems provided by these PMOs to the Army. Because much of this money was never repaid, many PMs are forced to accept major risks and some PM's even had to restructure their future program schedule to deal with second and third order effects. There is no established mechanism by which PMs can submit a request to regain these dollars in order to mitigate the risks placed on their programs, except for the normal Program Objective Memorandum process.

Because such a mechanism does not exist, many PMs are hesitant to spend their funds and are perceived as being non-responsive, uncooperative, and unsupportive to the war fighter. This only leads to further alienation between the war fighting community and the AAC. One methodology for handling this issue is to have a budgetary line item identified for the PEO/PM's to submit requests to the Army Strategic Planning Board for money to establish ATF cells and fund mission support activities.

EQUIPMENT

Another critical piece to this equation is having the correct ATF resources on hand to execute its mission. During OIF, the Director, ATF-SWA had to rent, buy, or beg all the equipment that was needed to command and operate the ATF, as well as deploy liaison teams forward with the combat elements. The ATF-SWA requested much of the equipment necessary to accomplish the liaison and BDA missions from the CFLCC headquarters and Army Pre-positioned Stocks (APS) fleet; however, their requests were rejected due to competing requirements. Had it not been for the ACERT team being in SWA, the BDA team would not have been able to perform the radiological detection and marking portion of its mission. I recommend that the ASC Major who is tasked to develop a deployment doctrine also develops a comprehensive list of equipment required to be supplied by the APS fleet, JTF headquarters, or a designated MACOM, and ensure that the equipment is available (office, vehicle, repair and maintenance, radiological detection, life support, etc.) for the ATF cell/personnel when needed.

CONTRACTORS

Prior to OIF, it was not politically viable for DoD to resist downsizing to a smaller, more efficient military. Contractor support must be made more mainstream in policy and doctrine, and steps must be taken to acknowledge the contractor workforce as part of the deployed warfighting force.⁴⁹ However, contractors on future battlefields create a host of challenges, especially in the face of escalating deployments and asymmetric threats. This is a double-edged sword because the Army also has the responsibility to manage, deploy, sustain, and protect contractors.⁵⁰ Critical DOD contractors need to be identified early on and their information entered into the Time-Phased Force Deployment Data, preparation for overseas replacement or movement; and reception, staging, onward movement, and integration with the units they are supporting. They also need to be prominently discussed in the command's operational plans/logistics annexes. This support plan will ensure that contractors receive the necessary life support to fulfill their missions, while remaining transparent to the warfighter.⁵¹ PM's also need to identify and add to their support contracts what life support activities the

military will and will not be responsible for providing to deployed contractors, such as billeting, security, mess hall privileges, etc.

SCHOOLING

The ASC should also be responsible for working with the Defense Acquisition University (DAU) to review the Level I -IV military professional education courses and incorporate all approved doctrinal changes into these courses. I recommend that a section be added to the DAU Program Manager's Tool Kit concerning the missions that may be performed in support of a deployed JTF Headquarters.⁵² The AAC needs to continue sending its members to schools with the warfighter to establish continuity and to better understand the warfighter's needs. While there are many specialized classes that AAC personnel need to attend, the AAC does not want to alienate its personnel from the war-fighting community by only sending them to acquisition related schools. The military personnel of the AAC are soldiers first, and then acquisition professionals second; therefore, the AAC's focus needs to be staying in touch with the warfighter.

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ENDNOTES

¹ Office of the Secretary of Defense, "Conflicts since US Army Established," briefing charts provided to U.S. Army War College, Carlisle Barracks, U.S. Army War College, 22 October 2003.

² Public Law 99-433 *Goldwater-Nichols Department of Defense Reorganization Act of 1986*, 100 Stat. 992-1000, 99th Congress (1986).

³ LTC Bruce Oldaker, *Personnel Management and the Acquisition Corps*, Strategy Research Project, (Carlisle Barracks: US Army War College, 24 March 1996), 2.

⁴ Public Law 101-510, *Defense Acquisition Workforce Improvement Act*, Sections 1201 through 121-1 of the FY 1990 Defense Authorization Bill (1990).

⁵ U.S. Army War College, *How The Army Runs 2003-2004*, Chapter 11, Section III, Army Organization and Management, 11-11, Army's RDA Goals, (Carlisle Barracks, U.S. Army War College, 2003), 202.

⁶ *Ibid.*, 203.

⁷ *Ibid.*, Figures 11-2 and 11-4. "Defense and Army Acquisition Executive Authority Charts," 203 & 206.

⁸ *Ibid.*, 206.

⁹ "PEO Air, Space and Missile Defense Mission Statement," available from <<http://peoasmd.redstone.army.mil>>; Internet; accessed 25 November 2003.

¹⁰ "PEO Ammunition Mission Statement," available from <<https://w4.pica.army.mil>>; Internet; accessed 25 November 2003.

¹¹ "PEO Aviation Mission Statement," available from <<https://www.peoavn.redstone.army.mil>>; Internet; accessed 25 November 2003.

¹² "PEO Combat Support/Combat Service Support Systems Mission Statement," available from <<http://peocscss.tacom.army.mil>>; Internet; accessed 25 November 2003.

¹³ "PEO Command, Control, Communications Tactical Mission Statement," available from <<http://peoc3t.monmouth.army.mil>>; Internet; accessed 25 November 2003.

¹⁴ "PEO Enterprise Information Systems Mission Statement," available from <<https://my.eis.army.mil>>; Internet; accessed 25 November 2003.

¹⁵ "PEO Ground Combat Systems Mission Statement," available from <<http://www.peogcs.army.mil>>; Internet; accessed 25 November 2003.

¹⁶ "PEO Intelligence, Electronic Warfare and Sensors Mission Statement," available from <<https://peoiews.monmouth.army.mil>>; Internet; accessed 25 November 2003.

¹⁷ "JPEO-Chemical and Biological Defense Mission Statement," available from <<http://www.jpeocbd.osd.mil>>; Internet; accessed 25 November 2003.

¹⁸ "PEO Simulation, Training, and Instrumentation Mission Statement," available from <<http://www.peostri.army.mil>>; Internet; accessed 25 November 2003.

¹⁹ "PEO Soldier Mission Statement," available from <<https://peosoldier.army.mil>>; Internet; accessed 25 November 2003.

²⁰ "PEO Tactical Missiles Mission Statement," available from <<http://peotm.redstone.army.mil>>; Internet; accessed 25 November 2003.

²¹ GEN Ronald Griffith and HON Gilbert Decker, "Policy for Warfighting Rapid Acquisition Program," memorandum for Army, Washington, D.C., 11 April 1990.

²² Joe Fortner, "Managing, Deploying, Sustaining, and Protecting Contractors on the Battlefield," *ALMC*, (September-October, 2000); available from <<http://www.almc.army.mil/ALOG/issues/SepOct00/MS571.htm>>; Internet; accessed 13 November 2003.

²³ COL Terry Mathews and COL Michael Mergens, "ASAALT Provides Warfighters Real-Time Support," *Army AL&T*, (November-December 2002), 30.

²⁴ LTC Lawrence Silas, Michael Gallagher, and Michael Hope, "Supporting the Force in Afghanistan and Central Asia," *Army AL&T*, (November-December 2002), 4.

²⁵ MAJ John Matthews and MAJ Dana Goulette, "Fielding Forward," *Army AL&T*, (March-April 2003) 43.

²⁶ COL Terry Mathews and COL Michael Mergens, "ASAALT Provides Warfighters Real-Time Support," *Army AL&T*, (November-December 2002), 31.

²⁷ J.R. Wilson, "The Army takes MOUT training seriously. PEO STRI fields an urban facility that travels to Afghanistan with the troops." Military Training Technology Online; available from <<http://www.peostri.army.mil/FEATURED/anteon.jsp>>; Internet; accessed 15 January 2004.

²⁸ COL Curtis McCoy, "Operation Iraqi Freedom Combat ASA (ALT) - SWA Task Force" briefing slides to LTG Caldwell, Camp Doha, Kuwait, 18 July 2003.

²⁹ Ibid.

³⁰ COL Curtis McCoy, Project Manager, Combat Systems, personal interview by author, 4 December 2003, Warren, MI.

³¹ COL Curtis McCoy, "Operation Iraqi Freedom Combat ASA (ALT) - SWA Task Force" briefing slides to LTG Caldwell, Camp Doha, Kuwait, 18 July 2003.

³² Ibid.

³³ Ibid.

³⁴ Ibid.

³⁵ COL Curtis McCoy, "Operation Iraqi Freedom Combat ASA (ALT) - SWA Task Force" briefing slides to LTG Caldwell, Camp Doha, Kuwait, 18 July 2003.

³⁶ Ibid.

³⁷ Third Infantry Division (Mechanized) - Rock of the Marne, "After Action Report Final Draft," 12 May 2003, Chapter 8, 8-2.

³⁸ Ibid., 8-3.

³⁹ Ibid.

⁴⁰ COL Curtis McCoy, Project Manager, Combat Systems, personal interview by author, 4 December 2003, Warren, MI.

⁴¹ Third Infantry Division (Mechanized) - Rock of the Marne, "After Action Report Final Draft," 12 May 2003, Chapter 17, 17-3.

⁴² COL Curtis McCoy, Project Manager, Combat Systems, personal interview by author, 4 December 2003, Warren, MI.

⁴³ Third Infantry Division (Mechanized) - Rock of the Marne, "After Action Report Final Draft," 12 May 2003, Chapter 18, 18-1.

⁴⁴ COL Curtis McCoy, "Operation Iraqi Freedom Combat ASA (ALT) - SWA Task Force" briefing slides to LTG Caldwell, Camp Doha, Kuwait, 18 July 2003.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Mary McHale, "New Initiatives, New Challenges for the Army's Acquisition Workforce," *Army RD&A*, (January-February 1998), 13.

⁴⁸ COL Mary Fuller, Director, Acquisition Support Center, personal interview by author, 2 February 2004, Carlisle Barracks, Carlisle, PA.

⁴⁹ Paula J. Rebar, *Contractor Support on the Battlefield*, Strategy Research Project, (Carlisle Barracks: US Army War College, 9 April 2002), 17-18.

⁵⁰ Ibid., 1.

⁵¹ SGM Ethan Jones, "Contracting Efforts Termed Crucial For Warfighters' Success," *Army AL&T*, (September-October 2002), 61.

⁵² Defense Acquisition University, "DAU Program Managers Tool Kit, Thirteenth Edition, Ver 1.0," June 2003, available from <<http://www.dau.mil/pubs/misc/Toolkit%2013th.pdf>>; Internet; accessed 25 November 2003.

BIBLIOGRAPHY

- Carmona, Waldo F. COL. *Acquisition Reform: Where To Now?*. Strategy Research Project. Carlisle Barracks: US Army War College, 15 May 1997.
- Fortner, Joe. "Managing, Deploying, Sustaining, and Protecting Contractors on the Battlefield." *ALMC* September-October, 2000. Available from <<http://www.almc.army.mil/ALOG/issues/SepOct00/MS571.htm>>. Internet. Accessed 13 November 2003.
- Fuller, Mary COL USA, Director, Acquisition Support Center. Personal interview by author, 2 February 2004, Carlisle Barracks, Carlisle, PA.
- Gorman, Michael A. COL. *Integration of the Army National Guard and Army Reserve into the Army Acquisition Corps: The Next Step*. Strategy Research Project. Carlisle Barracks: US Army War College, 15 May 1998.
- Griffith, Ronald GEN and HON Gilbert Decker. "Policy for Warfighting Rapid Acquisition Program." Memorandum for Army. Washington, D.C., 11 April 1990.
- Harkey, Joe COL. *Integration of the Army National Guard into the Army Acquisition Corps: Future Prospective*. Strategy Research Project. Carlisle Barracks: US Army War College, 10 April 2000.
- Jones, Ethan SGM. "Contracting Efforts Termed Crucial For Warfighters' Success." *Army AL&T* September-October 2002.
- "JPEO-Chemical and Biological Defense Mission Statement." Available from <<http://www.jpeocbd.osd.mil>>. Internet. Accessed 25 November 2003.
- Mancuso, August R. III COL. *Acquisition Support for the Army Transformation Campaign Plan*. Strategy Research Project. Carlisle Barracks: US Army War College, 9 April 2002.
- Matthews, John MAJ and MAJ Dana Goulette. "Fielding Forward." *Army AL&T* March-April 2003.
- Mathews, Terry COL and COL Michael Mergens. "ASAALT Provides Warfighters Real-Time Support." *Army AL&T* November-December 2002.
- McCoy, Curtis COL. "Operation Iraqi Freedom Combat ASA (ALT) - SWA Task Force." Briefing slides to LTG Caldwell. Camp Doha, Kuwait, 18 July 2003.
- McCoy, Curtis COL USA, Project Manager, Combat Systems. Personal interview by author, 4 December 2003, Warren, MI.
- McHale, Mary. "New Initiatives, New Challenges for the Army's Acquisition Workforce." *Army RD&A* January-February 1998.
- Office of the Secretary of Defense, "Conflicts since US Army Established." Briefing charts provided to U.S. Army War College. Carlisle Barracks: U.S. Army War College, 22 October 2003.

Oldaker, Bruce LTC. *Personnel Management and the Acquisition Corps*. Strategy Research Project. Carlisle Barracks: US Army War College, 24 March 1996.

"PEO Air, Space and Missile Defense Mission Statement." Available from <<http://peoasmd.redstone.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Ammunition Mission Statement." Available from <<https://w4.pica.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Aviation Mission Statement." Available from <<https://www.peoavn.redstone.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Combat Support/Combat Service Support Systems Mission Statement." Available from <<http://peocscss.tacom.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Command, Control, Communications Tactical Mission Statement." Available from <<http://peoc3t.monmouth.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Enterprise Information Systems Mission Statement." Available from <<https://my.eis.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Ground Combat Systems Mission Statement." Available from <<http://www.peogcs.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Intelligence, Electronic Warfare and Sensors Mission Statement." Available from <<https://peoiews.monmouth.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Simulation, Training, and Instrumentation Mission Statement." Available from <<http://www.peostri.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Soldier Mission Statement." Available from <<https://peosoldier.army.mil>>. Internet. Accessed 25 November 2003.

"PEO Tactical Missiles Mission Statement." Available from <<http://peotm.redstone.army.mil>>. Internet. Accessed 25 November 2003.

Public Law 99-433. *Goldwater-Nichols Department of Defense Reorganization Act of 1986*. 99th Congress (1986).

Public Law 101-510. *Defense Acquisition Workforce Improvement Act*. (1990).

Rebar, Paula J. *Contractor Support on the Battlefield*. Strategy Research Project. Carlisle Barracks: US Army War College, 9 April 2002.

Silas, Lawrence LTC, Michael Gallagher, and Michael Hope. "Supporting the Force in Afghanistan and Central Asia." *Army AL&T* November-December 2002.

U.S. Army War College. *How The Army Runs 2003-2004*. Carlisle Barracks: U.S. Army War College, 2003.

- U.S. Defense Acquisition University. "DAU Program Managers Tool Kit, Thirteenth Edition, Ver 1.0." June 2003. Available from <<http://www.dau.mil/pubs/misc/Toolkit%2013th.pdf>>. Internet. Accessed 25 November 2003.
- U.S. Defense Acquisition University Briefing. "New Acquisition Policy 12 May 2003." Briefing slides with scripted commentary. Fort Belvoir, 19 May 2003.
- U.S. Department of Defense. *Federal Acquisition Regulation*. October 1, 2003. Available from <<http://farsite.hill.af.mil/reghtml/regs/far2afmcfars/fardfars/far/01.htm>>. Internet. Accessed 16 October 2003.
- U.S. Department of Defense. *Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information System Acquisition Programs*. DoD Regulation 5000.2-R. (Washington, D.C.: U.S. Department of Defense, 12 May 2003.
- U.S. Department of Defense. *Operation of the Defense Acquisition System*. DoD Instruction 5000.2. (Washington, D.C.: U.S. Department of Defense, 12 May 2003.
- U.S. Department of Defense. *The Defense Acquisition System*. DoD Directive 5000.1. (Washington, D.C.: U.S. Department of Defense, 12 May 2003.
- U.S. Third Infantry Division (Mechanized) - Rock of the Marne, "After Action Report Final Draft", 12 May 2003.
- Wilson, J.R. "The Army takes MOUT training seriously. PEO STRI fields an urban facility that travels to Afghanistan with the troops." *Military Training Technology Online*. Available from <<http://www.peostri.army.mil/FEATURED/anteon.jsp>>. Internet. Accessed 15 January 2004.

